

REMARKS/ARGUMENTS

Claims 1, 2, 9, 10, 13-19, 21, 24, 26 and 29-34 are active in this application. The claims and specification have been amended to correct the terms “corn-type” and “corn-cave” to “conical” and “concave”. These amendments are supported by the specification as originally filed, based upon the context in which the terms are used, as well as the Figures showing the conical partition of a preferred embodiment. Additionally, claims have been amended to correct minor formal issues (inadvertent periods in the middle of the claim). No new matter has been added by these amendments.

The present invention relates to a method for removing solvent from a polymer solution which comprises putting the polymer solution into contact with steam to remove the solvent by steam stripping. In particular, the present invention requires that a part (10-50% by mass) of the steam is fed into a tube for transferring the polymer solution to a tank for removing solvent, and feeding the remaining part of the steam directly into the inside of the tank for removing solvent. The amount of total steam is as large as 100 parts by mass or more per 100 parts by mass of the solvent contained in the polymer solution. The present inventors have found that the present method enhances the efficiency of solvent removal by lowering the solvent partial pressure in the air bubble contained in the liquid phase.

The rejection under 35 U.S.C. 112 is believed obviated by the present amendment.

The claims stand rejected under 35 U.S.C. 102 over any of US 3,969,470 ('470); US 5,516,818 ('818); or US 6,403,761 ('761). However, none of these references discloses a process as claimed in the present invention. In particular, the '470 patent discloses a method for separating unreacted monomer and hydrogen. The polymer solution in the '470 patent is sent to reactor 2 and subsequently reaches Separator 6 through line 5. The unreacted monomer and hydrogen are removed through line 7 at Separator 6. However, the polymer and solvent are fed to the generated product separation area through line 18 where the

polymer and solvent are then separated. This is not the present invention. There is no disclosure or description within the '470 patent regarding feeding a portion of steam into the piping leading to the solvent/polymer separator, and the remaining steam into the solvent/polymer separation tank itself.

While the Examiner has quoted extensive portions of the text of the '470 patent, the Examiner has failed to show any portion which describes or suggests the specific limitations of the present claims, namely the feeding of a portion of steam into the piping transferring the polymer solution to the separation tank, and feeding the remainder of the steam into the separation tank itself. In fact, the bulk of the Examiner's quoted excerpt refers to the removal of hydrogen and unreacted monomer, and has nothing to do with separation of polymer and solvent from each other. Accordingly, the '470 patent cannot anticipate the present invention (or render it obvious).

The '818 patent discloses a process for removing small amounts of high boiling point organic compounds from an aqueous polymerization mixture. In particular, the patent discloses a stripping tower 10, into which are fed the latex containing the organic compound (including solvent), and into which is fed a stripping gas, such as steam. The stripping gas is fed to stripping tower 10 via line 18. The stripping gas such as steam is fed to the stripping tower 10 via line 20 (the bottom of the tower). Importantly, all of the steam (100%) is fed into the tower through this line. Even more importantly, none of the steam contacts the polymer solution prior to entry of the polymer solution into the stripping tower 10. **This is not the present invention.** Once again, the Examiner has quoted extensive portions of the '818 patent, but has failed to point out where the '818 patent discloses the limitations of the present claims.

The present invention, as noted above, requires that a portion of the steam be added to the line through which the polymer solution is transferred, with the remainder of the steam

being added directly into the separation tank (corresponding somewhat to the stripping tower 10 of the '818 patent). Since there is no disclosure or suggestion in the '818 patent to use such a split addition of steam as required by the present invention, nor any disclosure or suggestion of the advantages to be obtained by such addition of steam as required by the present invention, the '818 patent cannot anticipate or render obvious the present invention and the rejection should be withdrawn.

The '761 patent discloses a method for recovering a polymer, and suggests steam stripping of solvent in the solvent stripping tank. The polymer solution being transferred to the tank is heated in a long tubular heating tube. There is disclosure of adding either water or steam to the tube in order to decrease viscosity and prevent occlusion of the pipe, but there is nothing disclosed regarding addition of the required amount of steam to the pipe in order to increase the efficiency of the stripping of solvent. The only disclosure of use of steam for stripping solvent is the steam added to the stripping vessel itself. There is no recognition by the '761 patent that beginning the stripping operation within the transfer pipe by addition of steam to the polymer solution will provide significant improvements in the efficiency of the solvent stripping. Accordingly, the reference cannot anticipate or render obvious the present invention and the rejection should be withdrawn.

Application No. 10/517,761
Reply to Office Action of October 16, 2006

Applicants submit that the application is in condition for allowance and early notification of such action is earnestly solicited.

Respectfully submitted,

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(OSMMN 06/04)

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